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ABSTRACT

This Project for Systems of Individualized Instruction is intended to develop a teacher and administrator inservice program to facilitate role changes necessary for teachers in transition from group-paced to individualized instruction. Other objectives include the development of a parent information and orientation program, and the development of an instrument to analyze teacher performance in systems of individualized instruction. Teachers and students from all grade levels except kindergarten participate. In determining the needs of the program, teachers currently individualizing were sampled and ten major need areas were identified. In the workshop each participant selects the five or six learning activity packets with which he intends to work for a 4- or 5-day period and which contain a performance criterion test, primary idea learning objectives, introductory reading material, and several varied options for achieving the learning objective. The effectiveness of the program is being evaluated before it is made available to other school districts. (MBM)

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The California Teacher Development Project

The California Teacher Development Project for Systems of Individualized Instruction, a Title III ESEA Proposal, was funded in 1968. Teachers and students representative of all grade levels except kindergarten in five California public school districts and the parochial schools of the Catholic Archdiocese of San Francisco are participating in the Project. The public schools located in the San Francisco Bay Area are as follows: Fremont Unified District, San Carlos Elementary District, San Jose Unified District, Santa Clara Unified District, and the Union Elementary District. The participants are representative of all facets of the broad socio-economic spectrum of the San Francisco Bay region. Project programs and organization were designed using systems approach techniques. In-service activities, for example, were generated from needs assessment and problem analysis. Performance requirements were established. Program budgeting and time management techniques (PERT/CPM) were used as project management tools.

GOALS AND GENERAL OBJECTIVES

The major objective of the Project is to develop a teacher and administrator in-service program to facilitate role changes necessary for teachers in transition from group-paced to individualized instruction.

Other objectives include the development of a parent information and orientation program to provide parents with an understanding of the rationale for individualized instruction; the identification of needs that are necessary in teachers making the transition from group-paced to individualized instruction; and the development of an instrument to analyze teacher performance in systems of individualized instruction.

The teacher and administrator in-service program is designed to provide teachers with the skills needed to individualize instruction so that each pupil (1) will work at a rate commensurate with his assessed capability; (2) will use individually prescribed learning materials and media; and (3) will pursue learning objectives that are determined in accordance with his diagnosed needs and capabilities.

The purpose of the parent orientation and information program is to build support for a program that will facilitate each student's performance and consequent learning in an individualized instruction program.

TEACHER IN-SERVICE NEEDS SURVEY

The assessment sampled teachers who were currently involved in individualized instruction having already made the transition from group-paced to individualized instruction.

Teachers sampled were individualizing through the following ways: pacing (varying the rate of learning for each pupil); materials (varying learning materials for each pupil); and objectives (varying objectives for each pupil). The teachers were drawn from the elementary and secondary levels in the San Francisco area and from selected areas in the state.

The in-service needs assessment which included data from an extensive research literature survey resulted in the identification of the following ten major need areas:

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1. *The need for a commitment and an orientation to individualization by both the teacher and the students.*

2. *The need for assistance in preparing behavioral objectives.*

3. *The need for assessing student capabilities to provide the basis for appropriate individualized pacing, objective setting and programming.*

4. *The need for assistance in transforming material into a program that will achieve the behavioral objectives.*

5. *The need for improving the quality of the learning environment for the students.*

6. *The need to have available and know the location of a variety of instructional media and materials.*

7. *The need to obtain the cooperation of school administrators and fellow teachers.*

8. *The need for efficient methods of record-keeping and evaluation of student progress.*

9. *The need for added clerical and instructional assistance such as paraprofessionals.*

10. *The need for a parent orientation program and on-going information program to inform them and encourage their support of individualized instruction.*

These need areas formed the basis for establishing new in-service program objectives. The program objectives in turn became the basis for the development of the eleven different in-service program components comprising a five-day in-service workshop for teachers and administrators.

IN-SERVICE PROGRAM

The teacher and administrator in-service workshop has emerged as a completely individualized workshop in which each participant selects the five or six components with which he intends to work for a four or five day period. Each of the components was prepared to satisfy one or more of the identified needs. They are learning activity packets in which are presented a performance criterion test, primary idea learning objectives, introductory reading material, and several varied options to achieving the learning objective or objectives. The performance criterion test serves as both a pre-test and a post-test.

In listing five or six components for a tentative workshop study schedule the participant is, in effect, entering into a learning contract. The workshop component resource materials have been gathered from many sources, but each component with but one or two exceptions was prepared by a teacher experienced in that area of individualized instruction, e.g., the teachers who prepared "Using Contracts in Individualized Instruction" had been using contracts in their own classrooms for two years or more before writing that component.

4/26/71
CTDP

EVALUATION PROCEDURES

The California Teacher Development Project workshop for individualized instruction is designed to be transportable to other districts. Before it is transported, however, we must know certain outcomes. Do teachers participating in the workshop significantly increase the level of individualization in their classrooms? What effect does this individualization have on desired student learning outcomes? A related analysis must be made of the outcomes of the parent orientation program.

The effectiveness of the workshop and parent orientation program in changing teacher, parent and student cognitive or affective behaviors is being determined by EPIC Diversified Systems Corporation. EPIC's first activity was to delineate objectives for the teacher in-service and the parent orientation programs. In all, 14 objectives were delineated. The objectives are listed in Appendix A.

An evaluation design schematic with a time line was the second activity engaged in by EPIC and the project staff. This schematic is presented in Appendix B.

The simplified listing of performance objectives and the schematic were invaluable tools in the management and effectiveness of the project.

EVALUATION REPORTS

Some findings have been analyzed to this point. These findings listed by objective are as follows:

Objective 5 The teachers participating in the California Teacher Development Project will apply skills mastered in the in-service program.

Data collection for this objective is nearly complete for the follow-up end-of the-year observations. Information available at the writing of this report is presented. Sixty-one teachers participated in the August in-service program. Our classroom observations using a time sampling observation instrument indicated that 18 were individualizing to some extent prior to participating in the in-service program; about 26%. In October, 49 out of 51 teachers observed were individualizing to some extent, or about 98%. Early in April the teachers were once again observed. This time 49 teachers were observed, and 46 were individualizing; an average of 94%.

In terms of the intensity of use of learned techniques in individualized instruction the observations showed that individualized instruction increased from the time of the first observation in October through March/April, the time of the second observation. Table I shows this comparison. Category 1 indicates the number of 30 second time samplings in which group paced instruction was observed. Categories 2 through 7 show increased intensities of individualization. Note that category 1 decreases for the Experimental group relative to time, while category 9 (the most intensive individualization category) increases. Data for the Control group indicates greater individualization occuring also. The degree of transition for the Experimental group is much more rapid than the Control group.

Inferences from the data have not been drawn at this time. There are, however, many possibilities; for example - Did teachers who participated in the in-service program influence teachers who did not participate in the workshop? This can be examined by comparing Control teachers who teach in the same school as Experimental teachers with Control teachers who do not have Experimental teachers in their school.

TABLE I

Individualization of teaching techniques observed in Experimental and Control groups, using the California Teacher Development Project Teacher Observation Scale (TOS).

	GROUP PACED INSTRUCTION		INDIVIDUALIZATION OF INSTRUCTION																TOTAL	
EXPERIMENTAL GROUP	1		2		3		4		5		6		7		8		9			
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Spring 1970	5635	85.42	435	6.63	4	.06	0	0	515	7.83	9	.06	0	0	0	0	0	0	6598	100
Fall 1970	1290	18.88	2012	30.46	36	.56	106	.17	1146	16.79	2	.03	512	7.55	108	1.61	1635	23.95	6847	
Spring 1971	1008	12.63	543	6.80	0	0	595	7.46	1385	17.35	1402	17.57	106	1.33	277	3.48	2664	33.38	7980	
CONTROL GROUP																				
Spring 1970	4403	86.95	435	8.59	0	0	0	0	219	4.33	7	.13	0	0	0	0	0	0	5064	
Fall 1970	4383	84.21	497	9.55	69	1.33	14	.27	190	3.64	0	0	0	0	0	0	52	1.00	5205	
Spring 1971	3402	73.05	600	12.88	113	2.43	0	0	84	1.80	0	0	0	0	0	0	458	9.84	4657	

Objective 6 *The teachers participating in the CTD Project will respond positively to the concept of individualized instruction as measured by the EPIC Individualized Instruction Attitude Inventory.*

The procedure employed in the measurement of Objective 6 was to pre-test teachers during the initial phase of the in-service program, and to post-test these same teachers upon completion of the in-service program. The attainment of the objective was to be indicated if a significant gain was evidenced at the .05 level using a dependent t-test.

Results of the t-test indicated that the objective was met. The results are as follows:

Mean of pre-test scores = 80.58
Mean of post-test scores = 84.78
N = 60
t value using the t-test for correlated groups = 3.23 (This t value was found to be significant at the .001 level for 59 degrees of freedom).

Objective 9 *Teachers participating in the California Teacher Development Project in-service program will develop knowledge of the techniques of pacing as measured by the Fremont Test of Individualized Technique: pacing items.*

Objective 10 *Teachers participating in the California Teacher Development Project in-service program will develop knowledge of the technique of individualizing materials as measured by the Fremont Test of Individualized Technique: materials items.*

Objective 11 *Teachers participating in the California Teacher Development Project in-service program will develop knowledge of the technique of individualizing objectives as measured by the Fremont Test of Individualized Techniques: objectives items.*

The procedure employed in the measurement of these objectives was to pre-test teachers during the initial phase of the in-service program and to post-test these same teachers upon completion of the in-service training. The attainment of each objective was to be indicated if a significant gain was evidenced at the .05 level of confidence, using dependent t-tests for the scores on items indicated in the specific objectives.

Results of a t-test for these pre- and post-scores indicate that the objectives (9, 10 and 11) have been met.

The results of the overall scores for the knowledge test are as follows:

Mean of pre-test scores = 31.39
Mean of post-test scores = 42.41
N = 62
t-value using the t-test for correlated groups = 12.38 (This t-value was found to be significant at the .001 level for 61 degrees of freedom)

The evaluation of the project is incomplete at this time, but some important findings have already been observed as noted previously. Student performance in school achievement and in attitude is now being tested. The data analysis and results should be complete by mid-June.

PROJECT OBJECTIVES

Objective 1

The students in the CTD Project classrooms will exceed the language ability (.05 level) of the control group students as measured by the language subtest scores of the State-adopted standardized achievement test.

Objective 2

The students in the CTD Project classrooms will exceed the reading ability (.05 level) of the control group students as measured by the reading subtest scores of the State-adopted standardized achievement test.

Objective 3

The students in the CTD Project classrooms will exceed the mathematics ability (.05 level) of the control group students as measured by the mathematics subtest scores of the State-adopted standardized achievement test.

Objective 4

The students in the CTD Project will respond positively to the total school environment as measured by the EPIC Pupil Attitude Inventory (grades 1-6) and the modified Nebraska Attitude Inventory (grades 7-12).

Objective 5

The teachers participating in the CTD Project will apply skills mastered in the CTD Plan as measured by a modified version of the CTDP TOS technique.

Objective 6

The teachers participating in the CTD Project will respond positively to the concept of individualized instruction as measured by the EPIC Individualized Instruction Attitude Inventory.

Objective 7

The parents participating in the parent orientation program will respond more positively to the concept of individualized instruction as measured by the EPIC Parent Inventory: affective items.

Objective 8

Parents participating in the parent orientation program will develop a knowledge of individualized instruction as measured by the EPIC Parent Inventory: cognitive items.

Objective 9

Teachers participating in the California Teacher Development Project in-service program will develop knowledge of the techniques of pacing as measured by the Fremont Test of Individualized Techniques: pacing items.

Objective 10

Teachers participating in the California Teacher Development Project in-service program will develop knowledge of the techniques of individualizing materials as measured by Fremont Test of Individualized Techniques: materials items.

Objective 11

Teachers participating in the California Teacher Development Project in-service program will develop knowledge of the techniques of individualizing objectives as measured by Fremont Test of Individualized Techniques: objectives items.

Project Objectives - continued

Objective 12

Teachers participating in the California Teacher Development Project in-service program will develop comprehension of the three forms of individualized instruction as demonstrated by their ability to summarize in writing, to the satisfaction of the in-service instructors, the individualized activities which take place in a motion picture.

Objective 13

Students whose parents participate in an individualized instruction orientation program will achieve a greater degree of cognitive development than those students whose parents do not participate in such a program as measured by their composite mathematics and language scores on mandated achievement tests.

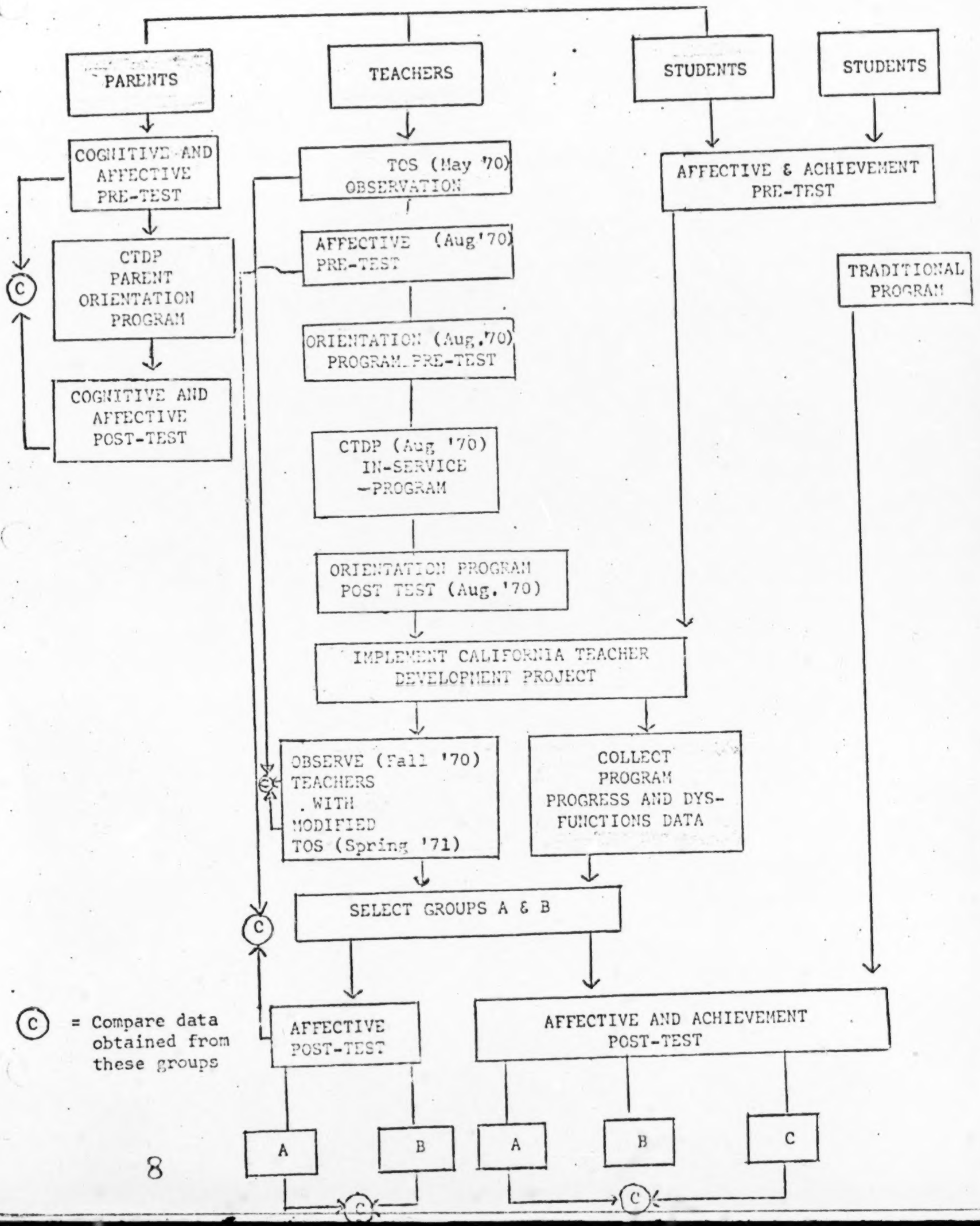
Objective 14

Students whose parents participate in an individualized instruction orientation program will respond more positively toward the total school environment than those students whose parents do not participate in such a program as measured by the EPIC Pupil Attitude Inventory (grades 1-6) and the modified Nebraska Attitude Inventory (grades 7-12).

EPIC EVALUATION DESIGN SCHEMATIC FOR CALIFORNIA TEACHER DEVELOPMENT PROJECT

EXPERIMENTAL GROUP

CONTROL GROUP (Group C)



(C) = Compare data obtained from these groups